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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/645,795	08/22/2003	Toshiki Taguchi	Q77110	8208
23373	7590	04/05/2005	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			KLEMANSKI, HELENE G	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 04/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/645,795

Applicant(s)

TAGUCHI ET AL.

Examiner

Helene Klemanski

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/10/03&2/18/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Information Disclosure Statement

1. The references cited in the Search Report December 16, 2003 have been considered.

Claim Objections

2. Claims 5, 7, 8 and 10 are objected to because of the following informalities: in claim 5, lines 16 and 17 after formula (M-I), the right and left parentheses should be deleted; in claim 7, line 3, the term "time" should be replaced with the term "times"; in claim 8, line 3, the term "time" should be replaced with the term "times" and in claim 10, lines 16 and 17 after formula (M-I), the right and left parentheses should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-12 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for an ink set comprising a plurality of inks different in hue, wherein the plurality of inks include a yellow ink containing a dye of the formula A-N=N-B wherein A and B independently represent a heterocyclic group which may be substituted and the dye contains various properties as recited in claim 1, does not

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reasonably provide enablement for an ink set comprising a plurality of inks different in hue, wherein the plurality of inks include a yellow ink containing a coloring agent that is a dye and the dye contains various properties as recited in claim 1. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make the invention commensurate in scope with these claims.

The claims recite an ink set containing a yellow in that comprises a coloring agent that is a dye having various properties as claimed. This encompasses any dye that has these properties. However, the specification only teaches the use of a dye of the formula $A-N=N-B$ wherein A and B independently represent a heterocyclic group which may be substituted. Such a limited disclosure does not support the breadth of the instant claims. The examiner suggests the incorporation of claim 4 into claim 1 to overcome this rejection.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 11 and 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 11 and 12, the term "using" is indefinite. A "process" defined in the sole terms of "using" does not define patentable subject matter under 35 USC 101. See *In re Fong*, 129 U.S.P.Q. 264 (CCPA 1961).

Double Patenting

7. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

8. Claims 1-12 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3-5 and 9-13 of copending Application No. 10/368,474 (US 2004/0020408). Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the present application are generic to said copending claims and would be obvious thereby.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

9. Claims 1-12 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1 and 7-16 of copending Application No. 10/645,797 (US 2004/0053988). Although the conflicting claims are not identical, they are not patentably distinct from each other because the

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claims of the present application overlap said copending claims and would be obvious thereby.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

In the above copending applications, it is the examiner's position that it would have been obvious to one having ordinary skill in the art that: (1) the dye would have a λ_{max} of from 390-470 nm; (2) an $I(\lambda_{\text{max}} + 70 \text{ nm})/I(\lambda_{\text{max}})$ ratio of not greater than 0.4 and (3) a forced fading rate constant of not greater than $5.0 \times 10^{-2} [\text{hour}^{-1}]$ since the dye of copending applications are the same structure as those claimed by applicants.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Yabuki (US 2004/0020408).

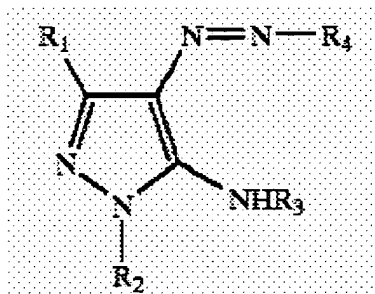
The applied reference has a common inventor with the instant application.

Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome

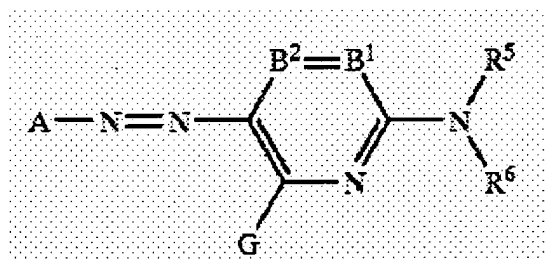
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either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Yabuki teaches an ink jet set comprising a yellow ink containing at least one yellow dye, a magenta ink containing at least one magenta dye and a cyan ink containing at least one cyan dye. The yellow dye is of the formula



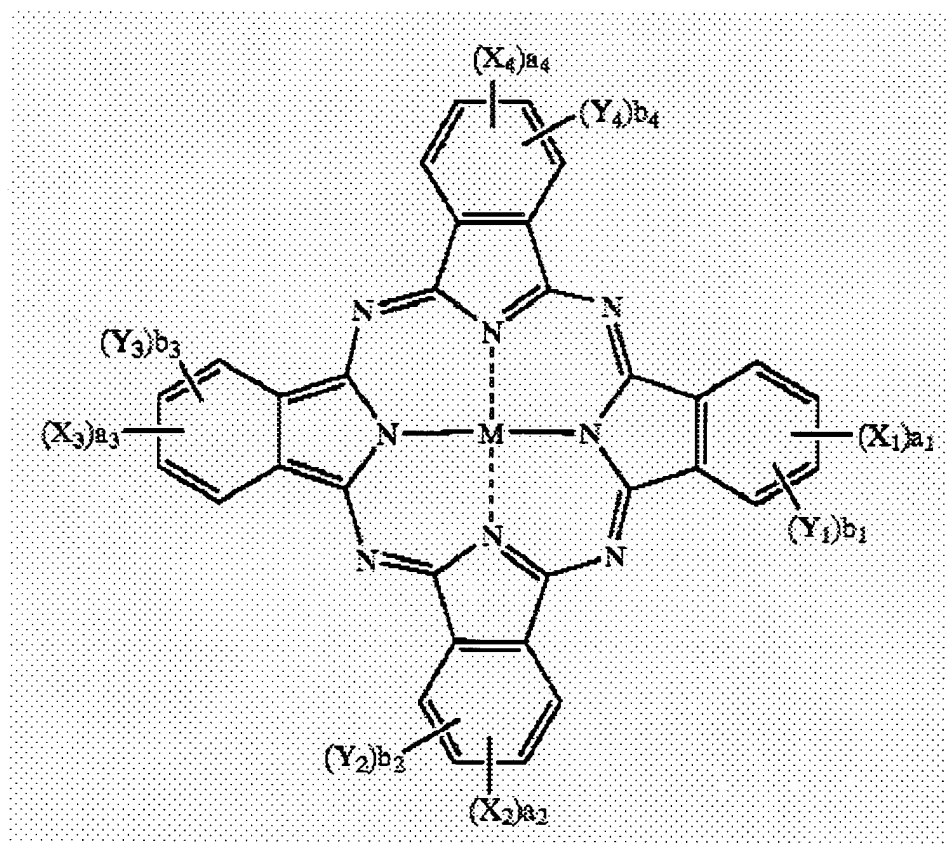
wherein R_1 and R_3 independently represent H, a cyano group, an alkyl group, a cycloalkyl group, an aralkyl group, an alkoxy group, an alkylthio group, an arylthio group, an aryl group or an ionic hydrophilic group; R_2 represents H, an alkyl group, a cycloalkyl group, an aralkyl group, a carbamoyl group, an acyl group, an aryl group or a heterocyclic group; and R_4 represents a heterocyclic group. The magenta dye is of the formula



wherein A represents a residue of a 5-membered heterocyclic diazo component $A-NH_2$; B^1 and B^2 each represent $-CR^1=$ or $-CR^2=$, or one of B^1 and B^2 represents a nitrogen

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atom and the other represents $-\text{CR}^1=$ or $-\text{CR}^2=$; R^5 and R^6 each independently represent H or a substituted or unsubstituted aliphatic, aromatic, heterocyclic, acyl, alkoxycarbonyl, aryloxy carbonyl, carbamoyl, alkylsulfonyl, arylsulfonyl or sulfamoyl group and G, R^1 and R^2 each independently represent H, halogen, a substituted or unsubstituted aliphatic, aromatic, heterocyclic, cyano, carboxyl, carbamoyl, alkoxycarbonyl, aryloxy carbonyl, heterocyclic oxycarbonyl, acyl, hydroxy, alkoxy, aryloxy, heterocyclic oxy, silyoxy, acyloxy, carbamoyloxy, etc. group. The cyan dye is of the formula



wherein X_1 - X_4 each independently represent $-\text{SO}-\text{Z}$, $-\text{SO}_2-\text{Z}$, $-\text{SO}_2\text{NR}_1\text{R}_2$, $-\text{CONR}_1\text{R}_2$ or CO_2R_1 ; Z independently represents a substituted or unsubstituted alkyl, cycloalkyl, alkenyl, aralkyl, aryl or heterocyclic group; R_1 and R_2 each independently represent H, a

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substituted or unsubstituted alkyl, cycloalkyl, alkenyl, aralkyl, aryl or heterocyclic group; Y₁-Y₄ each independently represent a monovalent substituent; M represents H, a metal element or an oxide, hydroxide or halide thereof; a₁-a₄ and b₁-b₄ independently represent an integer of 0-4 and the sum of a₁-a₄ is no less than 2. Yabuki further teach that the ink set may comprise two or more magenta inks having different dye concentrations and/or two or more cyan inks having different dye concentrations (i.e. light and dark inks). The inks are loaded into a cartridge of an ink jet printer and printed onto a substrate such as paper. See paras. 0027-0046, paras. 0071-0072, paras. 0077-0083, General Formula (M-II), paras. 0132-0134, paras. 0136-0141, compounds Y-1 to Y-22 and Y27-35, compounds M-3 to M26, compounds C-1 to C-50, paras. 0175-0193, para. 0207, Table 2a; Ink Sets 106-112, para. 0251, example 3, Table 3, Table 4, para. 0286 and claims 1, 3-5, 9, 10, 12 and 13. The ink jet in set as taught by Yabuki appears to anticipate the present claims.

12. Claims 1-6 and 9-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Takahashi et al. (US 2003/0232902).

The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

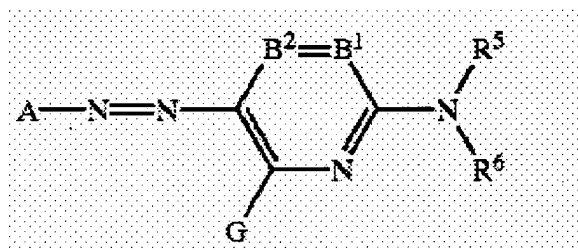
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Takahashi et al. teach an ink composition comprising colored particles which are produced by mixing together a solution containing at least one hydrophobic dye, at least one hydrophobic polymer, at least one high boiling organic solvent, at least one low boiling auxiliary solvent and an aqueous medium for emulsification and dispersion.

Takahashi et al. further teach an ink jet ink set comprising a yellow ink containing a yellow dye, a magenta ink containing a magenta dye and cyan ink containing a cyan dye wherein each ink comprises the above ink composition. The yellow dye is of the formula



wherein A and B independently represent a substituted or unsubstituted heterocyclic groups. The magenta dye is of the formula

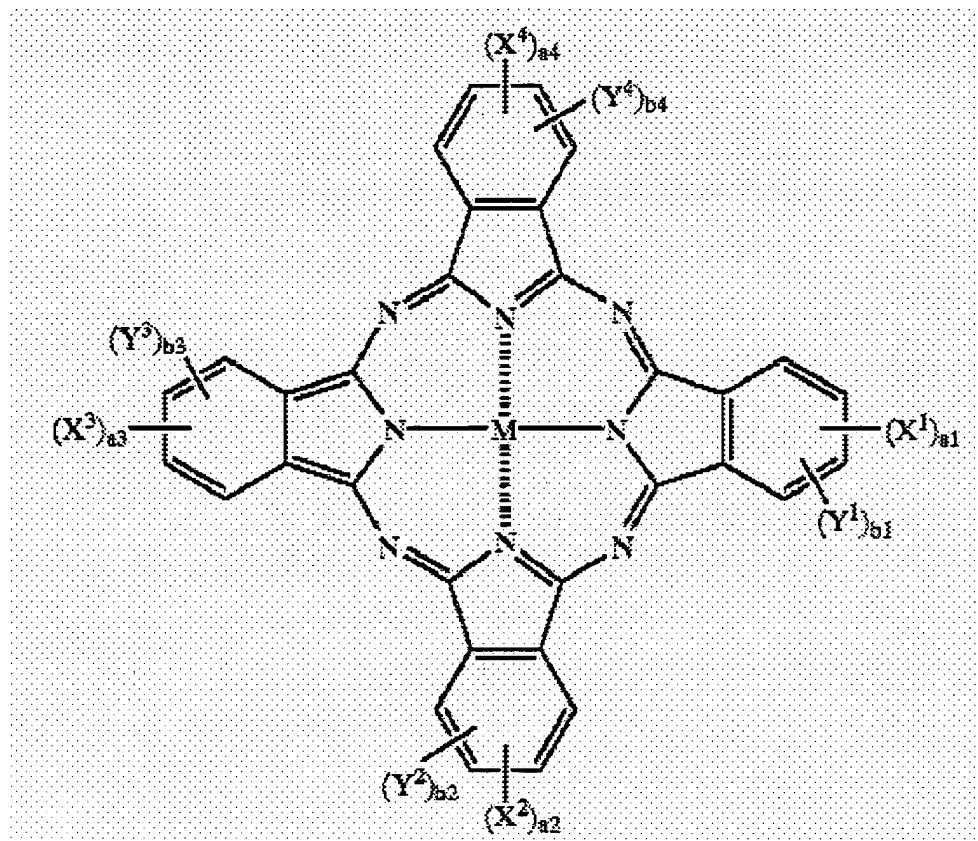


wherein A represents a residue of a 5-membered heterocyclic diazo component A-NH₂;

B¹ and B² each represent -CR¹= or -CR²=, or one of B¹ and B² represents a nitrogen atom and the other represents -CR¹= or -CR²=; R⁵ and R⁶ each independently represent H or a substituted or unsubstituted aliphatic, aromatic, heterocyclic, acyl, alkoxycarbonyl, aryloxy carbonyl, carbamoyl, alkylsulfonyl, arylsulfonyl or sulfamoyl group and G, R¹ and R² each independently represent H, halogen, a substituted or unsubstituted aliphatic, aromatic, heterocyclic, cyano, carboxyl, carbamoyl, alkoxycarbonyl, aryloxy carbonyl, heterocyclic oxycarbonyl, acyl, hydroxy, alkoxy,

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aryloxy, heterocyclic oxy, silyoxy, acyloxy, carbamoyloxy, etc. group. The cyan dye is of the formula



wherein X_1 - X_4 each independently represent $-\text{SO}-Z$, $-\text{SO}_2-Z$ or $-\text{SO}_2\text{NR}^{21}\text{R}^{22}$; Z independently represents a substituted or unsubstituted alkyl, cycloalkyl, alkenyl, aralkyl, aryl or heterocyclic group; R^{21} and R^{22} each independently represent H , a substituted or unsubstituted alkyl, cycloalkyl, alkenyl, aralkyl, aryl or heterocyclic group; Y_1 - Y_4 each independently represent a monovalent substituent; M represents H , a metal element or an oxide, hydroxide or halide thereof; a_1 - a_4 and b_1 - b_4 independently represent an integer of 0-4 and the sum of a_1 - a_4 is no less than 2. The inks are loaded into a cartridge of an ink jet printer and printed onto a substrate such as paper. See para. 0018, paras. 0023-0024, paras. 0036-0039, paras. 0101-0104, General Formulas

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Y-II, Y-III and Y-IV, compounds Y-101 to Y-155, paras. 0167-0175, General Formula M-II, compounds a-1 to a-27, b-1 to b-6, c-1 to c-3, d-1 to d-4 and e-1 to e-4, paras. 0232-0235, para. 0244, paras. 0248-0254, compounds C-101 to C-120, para. 0475, para. 0533, Table 1; Inks A-101, A-108, A-109 and A-114, example 2, para. 0563, Table 2, para. 0566 and claims 1-4 and 15. The ink jet in set as taught by Yabuki appears to anticipate the present claims.

13. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Ishizuka et al. (US 2004/0024085).

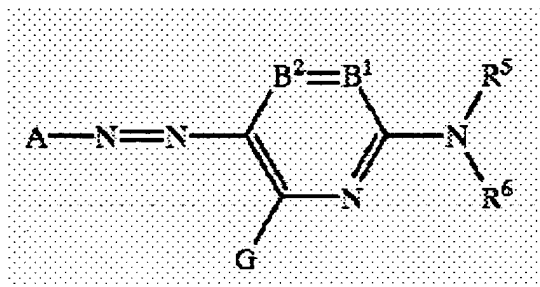
The applied reference has a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Ishizuka et al. teach an ink composition comprising colored fine particles containing oil-soluble polymer and an oil-soluble dye. Ishizuka et al. further teach an ink jet ink set comprising a yellow ink containing a yellow dye, a magenta ink containing a magenta dye and cyan ink containing a cyan dye wherein each ink comprises the above ink composition. The yellow dye is of the formula



wherein A and B independently represent a substituted or unsubstituted heterocyclic groups. The magenta dye is of the formula

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wherein A represents a residue of a 5-membered heterocyclic diazo component A-NH₂;

B¹ and B² each represent -CR¹= or -CR²=, or one of B¹ and B² represents a nitrogen

atom and the other represents -CR¹= or -CR²=; R⁵ and R⁶ each independently

represent H or a substituted or unsubstituted aliphatic, aromatic, heterocyclic, acyl,

alkoxycarbonyl, aryloxycarbonyl, carbamoyl, alkylsulfonyl, arylsulfonyl or sulfamoyl

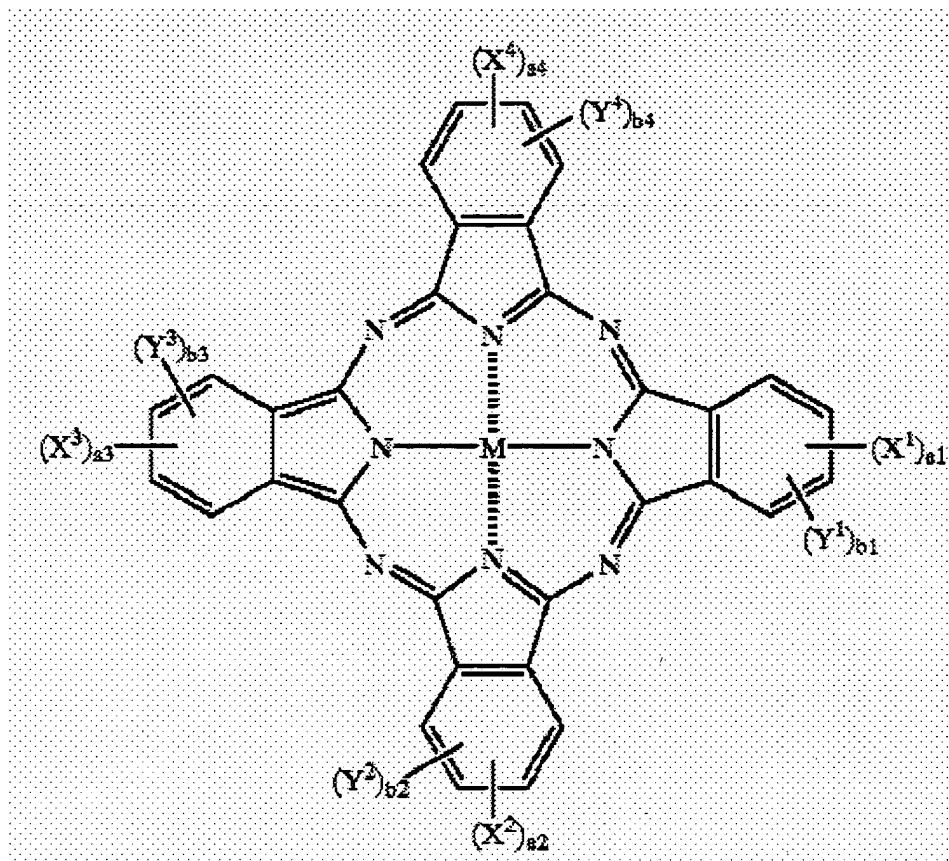
group and G, R¹ and R² each independently represent H, halogen, a substituted or

unsubstituted aliphatic, aromatic, heterocyclic, cyano, carboxyl, carbamoyl,

alkoxycarbonyl, aryloxycarbonyl, heterocyclic oxycarbonyl, acyl, hydroxy, alkoxy,

aryloxy, heterocyclic oxy, silyoxy, acyloxy, carbamoyloxy, etc. group. The cyan dye is of

the formula



wherein X_1 - X_4 each independently represent $-\text{SO}-\text{Z}$, $-\text{SO}_2-\text{Z}$ or $-\text{SO}_2\text{NR}^1\text{R}^2$, $-\text{CONR}_1\text{R}_2$ or CO_2R_1 ; Z independently represents a substituted or unsubstituted alkyl, cycloalkyl, alkenyl, aralkyl, aryl or heterocyclic group; R^1 and R^2 each independently represent H , a substituted or unsubstituted alkyl, cycloalkyl, alkenyl, aralkyl, aryl or heterocyclic group; Y_1 - Y_4 each independently represent a monovalent substituent; M represents H , a metal element or an oxide, hydroxide or halide thereof; a_1 - a_4 and b_1 - b_4 independently represent an integer of 0-4 and the sum of a_1 - a_4 is no less than 2. Ishizuka et al. also teach the addition of a light magenta ink and a light cyan ink to the ink set. The light inks contain $\frac{1}{4}$ the concentration of the above magenta or cyan dye. The inks are loaded into a cartridge of an ink jet printer and printed onto a substrate such as paper.

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See paras. 0010-0019, formula M-I, paras. 0038-0040, formula M-II, compounds a-1 to a-27, b-1 to b-4, c-1 to c-3, d-1 to d-4 and e-1 to e-4, paras. 0087-0090, compounds I-1 to I-4, All-1 to All-28, II-1 to II-28, paras. 0154-0155, formulas Y-II to Y-IV, compounds Y-101 to Y-160, para. 0228, para. 0490, para. 0519, example 4 and claims 1, 2, 4, 5 and 11. The ink jet in set as taught by Ishizuka et al. appears to anticipate the present claims.

Applicant cannot rely upon the foreign priority papers to overcome these rejections because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

The only limitations in the claims not found by the examiner are: (1) the dye has a λ_{max} of from 390-470 nm; (2) an $I(\lambda_{\text{max}} + 70 \text{ nm})/I(\lambda_{\text{max}})$ ratio of not greater than 0.4 and (3) a forced fading rate constant of not greater than $5.0 \times 10^{-2} [\text{hour}^{-1}]$. However, these limitations are considered inherent because there does not appear to be any reason why the cited reference would not contain a dye with applicants claimed properties since the dye of the above references are the same structure as those claimed by applicants.

Conclusion

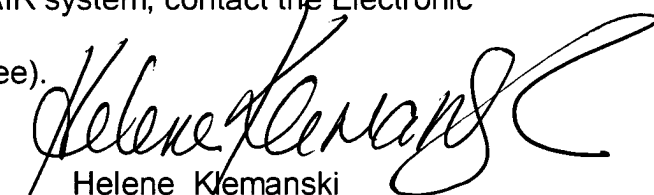
The remaining references listed on forms 892 and 1449 have been reviewed by the examiner and are considered to be cumulative to or less material than the prior art references relied upon in the above rejections.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Helene Klemanski whose telephone number is (571) 272-1370. The examiner can normally be reached on Monday-Friday 5:30-2:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jerry Lorengo can be reached on (571) 272-1233. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Helene Klemanski
Primary Examiner
Art Unit 1755



HK
April 4, 2005